DOCUMENT RESUME

ED 075 733 CG 007 945

AUTHOR Harkness, Suzanne C.; And Others
TITLE The Influence of Vocational Information on the Career Development of Elementary School Children.
INSTITUTION Prince William County School Board, Manassas, Va.
PUB DATE Feb 73
NOTE 29p.; Paper presented at the American Educational Research Association convention, New Orleans, Louisiana, February 26 to March 1, 1973

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Career Education; Elementary Education; *Elementary School Curriculum; *Elementary School Guidance; *Elementary School Students; Elementary School Teachers; Occupational Aspiration; Research Projects; Student Attitudes; *Vocational Development; Vocational Education; Vocational Interests

ABSTRACT

The major focus of this investigation was to examine the impact of a six-week occupational unit on upper elementary school children's knowledge and attitudes toward occupations. The study also investigated the relationship between children's occupational knowledge and their attitudes toward occupations. One-hundred and forty-eight inner-city ghetto children in grades four, five, and six were administered pre- and post-tests to measure their occupational attitudes and knowledge before and after exposure to an occupational unit. Data suggest that the unit made a significant impact on the children, although the greatest mean gains were seen in the scores of fourth grade subjects. Findings also show that occupational knowledge was related significantly to two selected attitude subtests: accuracy of vocational perceptions, level of occupational choice and future occupational choice level. References are included. (Author/SES)

FILMED FROM BEST AVAILABLE COPY

ED 075733

SCOPE OF INTEREST NOTICE
The ERIC Facility has assigned this document for processing to: CG PS
In our judgement, this document is also of interest to the clearinghouses noted to the right. Indexing should reflect their special points of view. UT

THE INFLUENCE OF VOCATIONAL INFORMATION ON THE CAREER DEVELOPMENT OF ELEMENTARY SCHOOL CHILDREN

by

Suzanne C. Harkness
Prince William County Schools, Virginia
Jeannette A. Brown
Mary A. MacDougall
University of Virginia

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

1973 AERA Convention
New Orleans, Louisiana
Program No. 19.25
February 27, 1973

Marriott Hotel
Jackson Room
2:15 - 3:45 P.M.

CG 007 945

Introduction

Vocational development has become a topic of national concern. Numerous researchers (Ginzberg, 1971; Creason and Schilson, 1970; Nelson, 1963; Davis, Hagan, and Strouf, 1962; and O'Hara, 1962), as well as the Federal Government (Caps Capsule, 1972), have examined the issue. School counselors and counselor educators (Holland and Lutz, 1968; DeFleur, 1966; and Gunn, 1964) have also undertaken investigations in a variety of settings. The findings of the many studies have suggested relationships for a variety of variables and the processes of vocational development. Nevertheless, the majority of these studies have not dealt with vocational development as it may relate to the elementary school age child.

The elementary school years are viewed by some educators (Coleman, 1971; Hoyt, 1971; Muro, 1970; Hill and Luckey, 1969; and Norris, 1963) as the most appropriate time to begin developing a child's attitudes about work and for extending his knowledge of the many occupations that exist today or may develop during his lifetime. A child's eventual occupational choice will depend upon various factors, one of the most important is considered to be the child's knowledge of occupations and the use he makes of this knowledge in his eventual occupational decision-making process (McCracken and Lamb, 1923).

The major responsibility of an elementary school counselor is to respond to the developmental needs of children. One of these developmental needs is related to vocational development. It is important, therefore, for an elementary school counselor to have an understanding of the vocational development of elementary school children. Further, if an elementary school counselor is to facilitate a child's vocational development or, more specifically, his awareness of the world of work and his decision-making

processes, relevant and accurate information must be made available to counselors.

One of the concerns of an elementary school counselor in providing such information is related to the question, what kinds of vocational information does an elementary school age child need to have about the world of work? Additional questions to be answered by a counselor in his work with curriculum specialists and teachers might be: Do all elementary school children need the same kind of vocational information? What information is appropriate at which grade level?

The above questions, as well as others, are common to counselors in elementary school settings. To answer questions of this nature, elementary school counselors need assistance. Unfortunately, a paucity of literature exists at the elementary school level and many of the sources for vocational information may be in need of updating and revision.

It was felt that an investigation of the impact of an occupational unit could be useful to counselors in their work with upper elementary school age children. In addition, an investigation of the relationship between a child's knowledge of the world of work and his attitudes toward occupations would also make a contribution.

For if the elementary school years are defined as being influential in an individual's processes of vocational development, an identification of the impact of an occupational unit and the relationship between occupational knowledge and attitudes would seem to be indicated. Moreover, if counselors in elementary schools were informed concerning the vocational development of children, they would presumably be more effective and efficient elementary school counselors. And given such conditions, elementary school children as they move through their developmental stages would become more effective and efficient vocational decision-makers.

Statement of the Problem

The primary purpose of this investigation was to examine the impact of an occupational unit on the vocational development of upper elementary school children. In addition, the investigation further studied the vocational development of elementary school children by examining the relationship between a child's knowledge about occupations and his attitudes toward various occupations.

Two major questions were investigated in the study:

1. What is the impact of an occupational unit on elementary school children's occupational knowledge and attitudes toward occupations?
2. What is the relationship between children's occupational knowledge and their attitudes toward occupations before and after exposure to an occupational unit?

Numerous studies have investigated both the amount and the kind of knowledge individuals have concerning the world of work. In addition, many studies have also examined individual's attitudes toward various occupations. Inquiries have been made into these areas within all age groups and between both sexes. However, the majority of the research has focused on adolescents and young adults, rather than elementary school age children. It was for these reasons that the present study was undertaken.

The Instrument

The Harkness Occupational Knowledge and Attitude Scale for Children (HOKASC) is a researcher developed instrument having its structural basis derived from the literature. This instrument was divided into two sections: occupational knowledge subtests and attitude subtests (see Appendix A). There were a total of ten subtests included in the HOKASC scale.

Subtest 1 of the occupational knowledge subtests inquired into children's ability to list titles of occupations. This method of gaining information on individual's awareness of occupations was utilized by Tyler and Sunberg (1964)

in their study concerning differences in occupational knowledge possessed by American and Dutch children.

Nelson (1963) investigated the occupational knowledge of children using a series of slides depicting sixteen occupations. After viewing each slide, the children were asked to give the job title, a description of the job, and state whether or not they would like to enter that occupation. Nelson's slide technique was employed in the formulation of Subtest 2, Slide Identification of Occupational Titles. Subtest 3, Matching Occupational Titles and Occupational Descriptions, was also adapted from Nelson.

Awareness of Occupations for Women was the focus of Subtest 4. This subtest was derived from a study by Schlossberg and Goodman (1972) which dealt with the degree to which elementary school children hold stereotypes about occupations based on sex. The findings indicated that both boys and girls believe women can enter only certain occupations.

Subtest 5, Awareness of Education Needed for Future Occupation, had its origination from DeFleur's (1966) study of awareness of requirements necessary to enter certain occupations. Children were asked if they knew what a person had to do to be in a certain occupation. Subtests 6 and 7 were concerned with a child's ability to state his parents' occupations. These subtests followed Norris's (1963) and Kaback's (1966) views that children should be provided with an awareness of their parents' occupations.

The literature related to the four attitude subtests of the HOKASC is presented below.

Subtest 8a, a child's Vocational Development Stage, was adapted from the Davis, Hagan, and Strouf (1962) study which examined Ginzberg's (1951) theory of vocational development. No mention was made of the assignment of fantasy and tentative stages. The second half of Subtest 8, Future Occupational Choice Level, was developed from Roe's system for classifying occupations. This method of classifying occupations contained both field

and level groupings. The focus of Subtest 8b for the purposes of this study dealt only with the six level classifications of occupations.

Subtest 9, Vocational Discrimination, was derived from Lindgren's study (1962) dealing with college students' attitudes toward occupations. In this study, Lindgren asked his subjects about their likes and dislikes of various occupations. Also concerned with attitudes toward occupations were studies conducted by Simmons (1962) and Gunn (1964). These researchers investigated children's abilities to rank occupations according to their prestige in the community. For the purposes of this study, an adaption of the Hodge, Siegel and Rossi (1964) listing of prestige rankings assigned to occupations was utilized for Subtest 10.

The instrument requires sixty minutes for group administration. Included in the instrument are both written and visually administered materials. This instrument, which has a test-retest reliability of .778, has been developed for use with upper elementary school children in grades four through six (see Appendix A for subtest explanations).

A child's total occupational knowledge and attitude score was based on a possible 100 points. Each of the subtests was assigned a certain amount of possible points according to the difficulty of the particular subtest. The point assignment for each subtest is explained in Table 1. In addition, the subtests were also used in this study in their raw score form (see Appendix A).

TABLE 1

Subtest Values for the Harkness Occupational Knowledge and Attitude Scale for Children

Subtest Number	Subtest Title	Possible Points
1	Listing Occupations	10
2	Slide Identification of Occupational Titles	10
3	Matching Occupational Titles and Occupational Descriptions	20
4	Awareness of Occupations for Women	10
5	Awareness of Education Needed for Chosen Occupation	5
6	Awareness of Father's Occupation	5
7	Awareness of Mother's Occupation	5
8	Future Occupational Choice (Stage)	5
9	Vocational Discrimination	10
10	Prestige Ranking of Occupations	20
	Total Points	100

The Subjects

The subjects in this investigation consisted of all fourth, fifth, and sixth grade children in an inner-city public elementary school located in a lower socio-economic neighborhood. The classes involved in the study followed the self-contained classroom model and had two sections of each grade level. The racial balance of the school included 50% white and 50% non-white students.

There were a total of 167 students involved at the beginning of the study. However, at the conclusion of the study, a total of 19 children were eliminated from the study population due to various reasons including missing data such as incomplete files or absence from a test administration. Included in the remaining 148 subjects were 78 boys and 70 girls. Table 2 shows the distribution of the remaining 148 subjects who participated in this investigation.

TABLE 2

Study Population

Grade	Number of Sections	Boys	Girls	White	Non-White	Total
4	2	27	28	25	30	55
5	2	23	21	23	21	44
6	2	28	21	27	22	49
TOTALS	6	78	70	75	73	148

Occupational Unit

Exploring Occupations and You was a researcher developed unit composed of six, thirty-minute lessons which dealt with various aspects of occupational information. The lessons were intended for children in the upper elementary school grades and included both visual and written materials. The occupational unit was introduced in the spring of 1972.

Lesson One included a slide series with cassette entitled "A Visit to a Shopping Center." The slides and narrative, which were also developed by the researcher, depicted a boy and girl talking to the various storekeepers and workers in their town's shopping center. The slides were followed by a discussion of the occupations viewed in the slide series and the preparation needed to enter these occupations.

The second lesson introduced the topics to be included in an "Occupational Scrapbook" which each child worked on during the six week unit period. The scrapbook included such materials as: pictures of occupations, articles about occupations, newspaper advertisements about jobs, occupations seen on the television, and occupations encountered in books and magazines. An additional part of Lesson Two involved a homework assignment of interviewing an adult and learning about his occupation.

Lesson Three dealt with the creation of "Our School DOT." The children discussed various occupations that they had interviewed and formed a booklet for the school library composed of their interview sheets. Also, the children discussed the nine occupational categories of the Dictionary of Occupational Titles (1965) and how the occupation that they interviewed fit into the groupings.

Jobs that women do and can do were emphasized in Lesson Four. The lesson focused on various occupations that are open to women besides the usual nurse, teacher, or secretary careers. The second part of this lesson was directed to make children aware of some of the training, abilities, special skills or talents that are required to enter certain occupations. The object of this part of the lesson was to make the

child begin to know himself better. How are a child's skills or abilities related to those needed for an occupation that he may want to enter?

The training or education needed to enter a particular occupation was stressed in further detail in Lesson Five. This lesson covered: high school education, technical schools, community college educations, four year college programs and graduate school curriculums. Catalogs and other materials from these various institutions were displayed and discussed with the children. Favorite subjects in school were also mentioned and their relation to numerous occupations.

The occupational unit concluded with Lesson Six which focused on a game of occupational charades where the children were exposed to roleplaying experiences.

To insure that all children in the study received the same information in a similar manner, specific lesson plans were developed by the researcher for the two counselors to follow in presenting the six lessons. Furthermore, to increase similarity of instruction, the researcher conducted training sessions to instruct the counselors in their lesson presentations.

Data Collection

One week previous to the introduction of the unit, all upper elementary children in the study school were administered the group pretest, the Harkness Occupational Knowledge and Attitude Scale for Children in their school cafeteria. Assisting with the test administration were two doctoral students in counselor education at the University of Virginia.

Following the pretest administration of the instrument, the researcher selected two counselors-in-training from an elementary guidance and counseling practicum class at the University of Virginia to teach the occupational unit. The researcher met with the counselors for a thirty minute session each week for six weeks to discuss their part in the project. Each week the counselors completed a log of their weekly activities related to the study. At the conclusion of the six week unit, all the children involved in the study were administered a posttest of the HOKASC in similar testing conditions.

Description of Statistical Methods

The following presentation summarizes the analysis utilized in answering the two major questions of the study.

1. What is the impact of an occupational unit on elementary school children's occupational knowledge and attitudes toward occupations?

A t test for dependent measures was used to determine if the 148 children made significant mean gains on their total weighed HOKASC scores from the pretest to the posttest adminstrations. In addition, a t test was also utilized to analyze the mean gains of both boys and girls, as well as, the children by individual grade levels.

Further analysis in question one included a single-factor analysis of variance to examine the above mentioned variables for significant differences regarding mean gains on the HOKASC. A single-factor analysis of variance is a method of testing for significant differences between means of two or more groups.

2. What is the relationship between children's occupational knowledge and their attitudes toward occupations before and after exposure to an occupational unit?

Attitudes toward occupations were represented by the following attitude subtests of the HOKASC: (8a) Vocational Development Stage, (8b) Future Occupational Choice Level, (9) Vocational Discrimination, and (10) Prestige Ranking of Occupations. Each of these subtests was analyzed individually by a multiple regression technique (Bottenberg and Ward, 1963) to examine their relationship to the seven knowledge subtests of the HOKASC. The form used was as follows:

$$Y = a_1 x^{(1)} + a_{2x}{}^{(2)} + \ldots\ldots\ldots a_7 x^{(7)} + k$$

where the x's were the values of the independent variables, the a's were the regression coefficients, and the k the constant for the equation. The F statistic, with alpha or the level of significance set at .05, was utilized to establish rejection or acceptance or the null hypotheses.

The F-ratio statistic was calculated according to the formula:

$$F = \frac{RSQ_f - RSQ_r \;/\; df_1}{1 - RSQ_f \;/\; df_2}$$

The squared multiple correlation values indicate the amount of total variance in the dependent variable which is predicted by the independent variables included in the regression analysis models. ITERREG, a library computer program, was used to perform the calculations.

The multiple regression technique discussed was used in analyzing both the pretest and posttest data. The scores used in the first part were the children's pretest raw data scores from the subtests of the HOKASC, and the scores utilized in the second part were the posttest raw data scores from the subtests of the HOKASC.

Analysis and Findings

This section of the paper will consist of presenting each hypothesis and stating the level of significance of the results. This will be followed by a table in which a summary of the analysis will be presented. A brief discussion of the results will follow the tables. The hypotheses were analyzed in accordance with the statistical methods presented. The level of acceptance of rejection was set at the .05 level of significance.

Hypothesis 1

There is no significant mean gain between children's pretest and posttest scores on the study instrument, the HOKASC, after their exposure to an occupational unit (.05 level of significance).

Result:

Hypothesis rejected at the .001 level of significance.

TABLE 3

Pretest and Posttest Scores on the HOKASC
t Test for Dependent Measures
All Subjects

N = 148

School	N	HOKASC Mean pre	HOKASC Mean post	Mean gain	ΣD	ΣD^2	t	p
	148	51.16	61.84	10.68	1581	25537	16.90	.001

Table 3 presents the t test findings for the pretest and posttest scores on the HOKASC. The analysis of the data yielded a significant t (16.90) at the .001 level. The mean gain between the pretest and

posttest scores for the total 148 subjects in the study was 10.68 points, indicating that there was a significant mean difference between the pretest and posttest scores. Further analyzed under Hypothesis I for significant mean gains between pretest and posttest scores on the HOKASC were the variables, sex and grade in school.

Hypothesis I

a. There is no significant mean gain between children's pretest and posttest scores for the two categories of the variable, sex, on the study instrument, the HOKASC, after the children's exposure to an occupational unit (.05 level of significance).

   Result:

   Hypothesis rejected at the .001 level of significance.

b. There is no significant mean gain between children's pretest and posttest scores for the three categories of the variable, grade in school, on the study instrument, the HOKASC, after the children's exposure to an occupational unit (.05 level of significance).

   Result:

   Hypothesis rejected at the .001 level of significance.

Table 4 presents the t test findings for the pretest and posttest scores on the HOKASC for the categories of the variables, sex, and grade in school. The analysis of the data revealed that children in all categories of the examined two variables showed significant mean gains on their HOKASC posttest scores at the .001 level of significance.

TABLE 4

Pretest and Posttest Scores on the HOKASC
t Test for Dependent Measures
for Categories of the Variables,
Sex and Grade in School

N = 148

Variable	N	ΣD	ΣD^2	t	p
Sex					
Boys	78	795	13597	10.67	.001
Girls	70	786	11940	14.04	.001
Grade Level					
Fourth	55	694	12248	11.64	.001
Fifth	44	440	6600	9.28	.001
Sixth	49	447	6689	8.66	.001

The analysis of the data regarding the two selected variables, sex and grade in school, under Hypothesis I was extended to identify significant differences of mean gain scores between the categories of each of the two variables. A single-factor analysis of variance was utilized for this examination.

c. When placed in categories according to sex, there is no significant difference between the HOKASC posttest mean gain scores after the children's exposure to an occupational unit.

Result:

Hypothesis accepted at the .05 level of significance.

d. When placed in categories according to grade in school, there is no significant difference between the HOKASC posttest mean gain scores after the children's exposure to an occupational unit.

Result:

Hypothesis accepted at the .05 level of significance.

Table 5 presents the results of the analysis of the data examined to determine differences between the HOKASC mean gain scores for the categories of the two variables, sex and grade in school. The analysis of the data related to the variable, sex, as presented in the table, indicates that there was no significant difference at the .05 level of significance between boys and girls in regard to their mean gain scores on the HOKASC. Therefore, the findings would indicate that both boys and girls showed mean gains on the HOKASC posttest after exposure to the occupational unit and that there existed no significant difference between the two sexes.

Also showing no significant mean gain difference between variable categories were the findings related to the variable, grade in school. Children assigned to the fourth grade appeared to make the greatest mean gains on their HOKASC posttest scores after exposure to the occupational unit, while the least mean gains were attained by sixth grade children. However, as can be observed on the table, sixth grade children had a higher mean score on the HOKASC pretest than did the children in the other two grades. Nevertheless, all children appeared to gain on the HOKASC posttest and there existed no significant difference between the three grade levels.

TABLE 5

Differences Between the HOKASC Mean Gain Scores for the Categories of the Variables, Sex and Grade in School
N = 148

Variable	N	HOKASC pre $\bar{X}$	Mean Gain	HOKASC post $\bar{X}$	d/f	F-ratio	p
Sex							
Boys	78	51.67	10.19	61.86	1/146	.65	NS
Girls	70	50.59	11.23	61.82			
Grade Level							
Fourth	55	40.56	12.62	53.18	2/145	2.82	NS
Fifth	44	54.32	10.00	64.32			
Sixth	49	60.20	9.12	69.32			

Hypothesis II (pretest data)

There is no significant relationship between children's occupational knowledge and their attitudes toward occupations before exposure to an occupational unit.

The subtests of the HOKASC were classified into measures of knowledge (seven subtests) and measures of attitudes (four subtests). The seven predictors of knowledge were related to each of the four dependent variables. The variables are defined as follows:

Independent Variables

X_1 = Listing Occupations

X_2 = Slide Identification of Occupational Title

X_3 = Matching Occupational Titles and Occupational Descriptions

X_4 = Awareness of Occupations for Women

X_5 = Awareness of Education Needed for Stated Future Occupation

X_6 = Awareness of Father's Occupation

X_7 = Awareness of Mother's Occupation

Dependent Variables

Y_1 = Accuracy of Vocational Perceptions (Stages)

Y_2 = Future Occupational Choice Level

Y_3 = Vocational Discrimination

Y_4 = Prestige Ranking of Occupations

The relationships between the occupational knowledge and attitudes toward occupations on the pretest measures were tested as follows:

a. There is no significant relationship between children's occupational knowledge and their accuracy of vocational perceptions (stage) as measured by the knowledge subtests and Subtest 8a of the HOKASC (pretest scores).

   Result:

   Hypothesis is accepted at the .05 level of significance.

b. There is no significant relationship between children's occupational knowledge and their future occupational choice level as measured by the knowledge subtests and Subtest 8b of the HOKASC (pretest scores).

   Result:

   Hypothesis rejected at the .05 level of significance.

c. There is no significant relationship between children's occupational knowledge and their vocational discrimination as measured by the knowledge subtests and Subtest 9 of the HOKASC (pretest scores).

   Result:

   Hypothesis accepted at the .05 level of significance.

d. There is no significant relationship between children's occupational knowledge and their prestige ranking of occupations as measured by the knowledge subtests and Subtest 10 of the HOKASC (pretest scores).

   Result:

   Hypothesis rejected at the .001 level of significance.

TABLE 6

Relationship of Occupational Knowledge to Attitudes Toward Occupations

N = 148

Pretest

Variables Dependent	Independent	RSQ	F-ratio	p
Y_1	$(X_1 - X_7)$	.073	1.84	NS
Y_2	$(X_1 - X_7)$	.094	2.44	.05
Y_3	$(X_1 - X_7)$	.061	1.52	NS
Y_4	$(X_1 - X_7)$	.278	9.45	.001

Hypothesis II (posttest data)

There is no significant relationship between children's occupational knowledge and their attitudes toward occupations after exposure to an occupational unit.

The seven predictor variables of occupational knowledge were related to each of the following subtests of the HOKASC: (a) Accuracy of Vocational Perceptions (Stage), (b) Future Occupational Choice Level, (c) Vocational Discrimination, and (d) Prestige Ranking of Occupations.

The significance of the relationships between posttest data was tested as follows:

(a) There is no significant relationship between children's occupational knowledge and their accuracy of vocational perceptions (stage) as measured by the knowledge subtests and Subtest 8a of the HOKASC, after exposure to an occupational unit (posttest scores)

Result:

Hypothesis rejected at the .001 level of significance.

(b) There is no significant relationship between children's occupational knowledge and their future occupational choice level, as measured by the knowledge subtests and Subtest 8b of the HOKASC, after exposure to an occupational unit (posttest scores).

Result:

Hypothesis rejected at the .01 level of significance.

c. There is no significant relationship between children's occupational knowledge and their vocational discrimination, as measured by the knowledge subtests and Subtest 9 of the HOKASC, after exposure to an occupational unit (posttest scores).

Result:

Hypothesis accepted at the .05 level of significance.

d. There is no significant relationship between children's occupational knowledge and their prestige ranking of occupations, as measured by the knowledge subtests and Subtest 10 of the HOKASC, after exposure to an occupational unit (posttest scores).

Result:

Hypothesis rejected at the .001 level of significance.

TABLE 7

Relationship of Occupational Knowledge to Attitudes Toward Occupations

Posttest N = 148

Variables				
Dependent	Independent	RSQ	F-ratio	p
Y_1	$(X_1 - X_7)$	.178	5.08	.001
Y_2	$(X_1 - X_7)$	.132	3.58	.01
Y_3	$(X_1 - X_7)$	.077	1.95	NS
Y_4	$(X_1 - X_7)$	.159	4.45	.001

The pretest data as presented in Table 6 revealed that the seven indicators of occupational knowledge were significantly related at the .05 level of significance or better to two of the four attitude subtests, namely, a child's future occupational choice level and his prestige ranking of occupations. Prestige ranking of occupations (F-ratio = 9.45) appeared to have the most significant relationship to occupational knowledge.

The posttest data (see Table 7) again revealed that the seven indicators of a child's occupational knowledge, as measured by the HOKASC, were significantly related to a child's future occupational choice level and his prestige ranking of occupations. However, it should be noted that the F-ratio (4.45) for this subtest, utilizing the posttest data, dropped five points from the F-ratio reported for the pretest data. No attempt was made to include any reference to job prestige in the occupational unit. All jobs were presented as being important contributors to society.

A child's accuracy of vocational perceptions (stage) improved from nonsignificance on the HOKASC pretest to the .001 level of significance on the posttest data after the children's exposure to an occupational unit. Vocational discrimination maintained non-significance while the F-ratio increased slightly on the posttest data.

Further analyzed in this study for descriptive data was a child's sex, a variable examined by numerous researchers as a current topic of interest (Lang, 1971). An investigation of the study data revealed that most girls selected female stereotype occupations, such as teaching or nursing, as the occupation they would eventually like to enter. Specifically, as is noted in Appendix B, thirty-eight (38) girls desired to become school teachers, twelve (12) aspired to enter nursing, three (3) wanted to become waitresses, and three (3) desired to become airline stewardesses. At least one among these five occupations was selected by 84% of the girls participating in the study.

A further observance of the study data revealed that after exposure to the occupational unit, 24 boys and 19 girls made future job choice changes on their HOKASC posttest. These numbers indicated that 27% of the girls made changes, while 31% of the boys indicated a different future job choice from their pretest selections.

Summary and Discussion

The major focus of this investigation was to examine the impact of a six-week occupational unit on upper elementary school children's knowledge and attitudes toward occupations. In addition, the study also investigated the relationship between children's occupational knowledge and their attitudes toward occupations.

A total of 148 inner-city children in grades, four, five and six were the subjects for this investigation. The children were pretested and posttested with a researcher developed instrument, the HOKASC to measure their occupational knowledge and attitudes toward occupations before and after exposure to the occupational unit, Exploring Occupations and You.

The data generated by Hypothesis I identified the occupational unit, Exploring Occupations and You, as making a significant impact on the 148 children participating in the study. This would seem to imply that all upper elementary school children, could in fact, benefit from exposure to an instructional unit on occupations. Thus, counselors who would effectively and efficiently interpret their career development functions, should design their programs to include such occupational units.

In addition, elementary school counselors as they work with curriculum specialists must determine which vocational information to provide which students and at what grade level. The findings of this investigation indicated that the materials in the occupational unit made the greatest impact on children in the fourth grade. It appeared that some of the unit lessons may have covered material already in fifth and sixth grade student's scope of knowledge since these children achieved lower mean gains on their HOKASC posttests. This finding would indicate that counselors should continually evaluate the material they are presenting in order to assume the appropriateness of that material for the children in question. Some help for this effort might be supplied by the occupational unit of this study.

The findings of Hypothesis II suggest that occupational knowledge, as measured by the HOKASC, was related significantly to the selected attitude subtests of the same instrument. Children's accuracy of vocational perceptions improved from non-significance to significance at the .001 level. This finding indicates that increased exposure to

occupational information will influence a child's accuracy of perceptions about the world of work.

Additionally, children's future occupational choice level increased in significance from the .05 level to the .01 level. As the children's knowledge about occupations was broadened, their choice of a future occupational level changed.

Related to the future occupational choice level of children in this study was their perception of prestige ranking of occupations. The level of significance remained at the .001 level after exposure to the occupational unit. However, as previously mentioned, the F-ratio dropped five points from the pretest F-ratio. The occupational unit stressed the worth of all occupations in an effort to influence a child's attitudes concerning doctors, lawyers, and scientists as the most desireable occupations. The findings tend to indicate that formal school instruction can influence the attitudes of children concerning the worth of all occupational levels.

The last attitude subtest examined was vocational discrimination. The findings revealed that after exposure to the occupational unit, children's occupational knowledge was not found to be significantly related to their vocational discrimination. A possible explanation for this finding could be that all the various occupations presented on the HOKASC attitude subtests were not covered in the unit lessons.

The findings of this study seem to imply that occupational knowledge is in fact related to a child's attitudes toward occupations. However, it must be observed that this study focused on only four aspects of children's attitudes toward occupations. A definite statement concerning the impact of the several vocational aspects of children's attitudes requires additional study.

The variable, sex, as it related to vocational development was found to be influential in this study. Specifically, at least one among the five traditional female occupations was selected by 84% of the girls participating in the study. This finding tends to indicate that although girls may possess as much occupational knowledge as boys, they nevertheless appear to be influenced toward the selection of traditional feminine vocational roles (see Appendix B).

This finding seems to imply that elementary school counselors need to place greater emphasis on occupations that are not conventionally considered to be female occupations, yet are in fact, available to females. In addition, although boys tend to know about occupations their occupational selections tend to follow glamour patterns, e.g., football players, race car drivers, doctors, policemen, and scientists (See Appendix B). This seems to imply a greater in depth look at the requirements needed to enter specific occupations.

While definite decisions about a future occupation are not made at the elementary school level, attitudes are being formed as was demonstrated by the findings of this study. Certain professions, such as teachers and lawyers are overcrowded while skilled occupations, such as plumbers and electricians are undersupplied. If the counselor's role includes a concern with society's needs as well as needs of individual children, counselors in elementary schools have an obligation to deal with the entire spectrum of career choices. Counselors, as well as children, must not limit themselves to awareness of only the stereotyped professions.

The issue of whether or not occupational information is an appropriate topic area for elementary school curricula or if the interpretation of such programs is an appropriate function for elementary school counselors may be open to controversy. However, it is felt that if the issue is ever to be satisfactorily resolved, more definitive data must be made available to the discussants. Some meaningful inroads on the problem can be made by studies which are conceptualized in multivariant terms. The present study is represented as an effort in such directions.

References

Bottenberg, R.A., & Ward, J.H., Jr. Applied multiple linear regression. Technical Documentary Report PRL-TDR-63-6, March 1963.

Coleman, F. Reactions to Ginzberg. Impact, 1971, 1, (1), 17-18.

Creason, F., & Schilson, D. Occupational concerns of sixth-grade children. Vocational Guidance Quarterly, 1970, 18, 219-224.

Davis, D.A., Hagan, N., & Strouf, J. Occupational choice of twelve-year olds. Personnel and Guidance Journal, 1962, 40, 628-629.

DeFleur, L.B. Assessing occupational knowledge in young children. Sociological Inquiry, 1966, 36, 98-115.

Dictionary of Occupational Titles, Vol I: Definitions of Titles, Manpower Administration, Department of Labor, Washington: Government Printing Office, 1965.

Feingold, S.N., & Swerdloff, S. Occupations and careers. New York: McGraw-Hill, Inc., 1969.

Ginzberg, E. Career guidance. New York: McGraw-Hill, Inc., 1971.

Ginzberg, E., Ginsberg, S.W., Axelrad, S., & Herma, J.L. Occupational choice: An approach to a general theory. New York: Columbia University Press, 1951.

Gunn, B. Children's conceptions of occupational prestige. Personnel and Guidance Journal, 1964, 44, 558-563.

Hill, G.E., & Luckey, E.B. Guidance for children in elementary schools. New York: Appleton-Century-Crofts, 1969.

Hodge, R.W., Siegel, P.M., & Rossi, P.H. Occupational Prestige in the United States 1925-63. American Journal of Sociology, 1964, 70, 290-293.

Holland, J.L., & Lutz, S.W. The predictive value of a student's choice of vocation. Personnel and Guidance Journal, 1968, 46 428-434.

Hoyt, K. Reactions to Ginzberg. Impact, 1971, 1, (1), 19-20.

Kaback, G.R. Occupational information for groups of elementary school children. Vocational Guidance Quarterly, 1966, 14.

Lang, T. The difference between a man and a woman. New York: John Day Co., 1971.

Lindgren, H.C. Age as a variable in the aversion toward food and occupations. Journal of Consulting Psychology, 1962, 26, 101-102.

McCracken, T.C. & Lamb, H.E. Occupational information in the elementary school. Boston: Houghton Mifflin Company, 1923.

Muro, J.J. The counselor's work in the elementary school. Scranton, Pennsylvania: International Textbook Company, 1970

Nelson, R.C. Knowledge and interests concerning sixteen occupations among elementary and secondary school students. Educational and Psychological Measurement, 1963, 23, 741-754.

Norris, W. Occupational information in the elementary school. Chicago: Science Research Associates, 1963.

O'Hara, R.P. The roots of careers. Elementary School Journal, 1962, 62,277-280.

Roe, A. The Psychology of occupations. New York: John Wiley & Sons, Inc., 1956.

Schlossberg, N.K. & Goodman, J. A woman's place: children's sex stereotyping of occupations. The Vocational Guidance Quarterly, 1972, 20, 266-270.

Simmons, D.D. Children's ranking of occupational prestige. Personnel and Guidance Journal, 1962, 41, 332-336.

Tyler, L.E., & Sunberg, N.D. Factors affecting career choice of adolescents. Cooperative Research Project No. 2455. Department of Health, Education, and Welfare, 1964.

Walz, G. New career development projects. Caps Capsule, 1972, 5, (2), 1.

APPENDIX A

HARKNESS OCCUPATIONAL KNOWLEDGE AND ATTITUDE

SCALE FOR CHILDREN

The following are explanations of the ten subtests of the Harkness Occupational Knowledge and Attitude Scale for Children:

Subtests for Knowledge Measurement

1. Listing Occupations - The number of different occupations that a child can list in seven minutes.

2. Slide Identification of Occupational Titles - This subtest measures a child's ability to identify the occupational titles depicted in twenty-five hand drawn slides.

3. Matching Occupational Titles and Occupational Descriptions - A child is asked to match twenty occupational titles to their appropriate job descriptions..

4. Awareness of Occupations for Women - The number of occupations out of a given list of twenty-five that a child states a woman can do.

5. Awareness of Education Needed for Stated Future Occupation - A child's knowledge regarding the minimum amount of education required to enter his stated future occupational choice as reported by Feingold (1969).

6. Awareness of Father's Occupation - The ability of a child to state his father's occupation as recorded in his cumulative record file.

7. Awareness of Mother's Occupation - The ability of a child to state his mother's occupation as recorded in his cumulative record file. For the purposes of this study, a housewife is considered to be an occupation.

Subtests for Attitude Measurement

8. This subtest focused on asking a child to state his future occupational choice. A child's answer was classified in two ways: